

# AVIATION

*The Oldest American Aeronautical Magazine*

NOVEMBER 29, 1926

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The U.S.S. Shenandoah making a night mooring to the Lakhurst mast (see page 912)

VOLUME  
XXI

## SPECIAL FEATURES

NUMBER  
22

LIGHTING OBSTRUCTIONS DANGEROUS TO AIR NAVIGATION  
METAL V. WOOD PROPELLERS  
THE LIZETTE SPORT PLANE

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crash near the Philadelphia Navy Yard. Their mother, who was visiting nearby brothers. From hospital up, these sons were closely attended to each other and lived to fly together in June 1931, with the students of the Wright Brothers in Dayton, Ohio. From the time the Wrights succeeded in making their first flight, Colonel Rodgers was extremely interested in airplanes. In 1918 alone a month after leaving to fly, he won the Gordon Post of \$10,000 at the Chicago International Aviation Meet, returning to the air on 22 November.



The bronze plaque in memory of C. P. Rodgers, which was unveiled recently in the Carnegie Museum at Pittsburgh.

After other women decided to fly, Rodgers, at about 31, flew to Pacific Flight and on Sept. 17, 1911, he lost Chesapeake Bay, L. 1, in a new J. C. X model Wright Bi-Plane, and landed safely at Long Beach, California on Nov. 3, 1913, with both legs in plaster casts. He flew a L-101, and over a route, which included Chicago, Kansas City, Dallas, San Antonio, El Paso, and Phoenix, and his return flight has been recorded as 5 days, 20 hr. and 4 min. Total elapsed time from start to finish was 50 days, with 60 landings. In the flight 1230 gallons of gasoline were consumed, 15 wings were made, and after starting with two engines, it finished with one made up from parts of two. The only parts of the original machine to reach the coast were the rubber and two struts, and to one of these struts, a small bottle of Vaseline was tied, having passed through all perils without breaking.

A special express was arranged for the return trip carrying extra parts, in case of accident.

After completing his second flight, he completely returned by train to New York City, and was awarded a dinner by the Aero Club of America at which he gave a model, presented personally by President Taft.

A few weeks later he returned to California, and during an airplane crash on Long Beach was killed on Aug. 5, 1932, by a machine with similar notes. It is a marked coincidence that these details concern, California born Rodgers and California State Rodgers, both met death under similar circumstances.

It is for this reason that the Aero Club of Pittsburgh honors California born Rodgers and by the late in time honored Pittsburgh and the history of aviation.

### How Many Civil Airplanes Are Operating?

The Aeronautics Branch of the Department of Commerce has been conducting a survey to determine how many civil airplanes there are in the country. It is estimated that this number reaches between 4,500 and 5,000. Following the War, the Army and Navy disposed of 1,000 planes to private individuals and business, in addition to selling surplus parts and accessories which would be \$10,000 additional planes. A total of 15,000 airplane engines were sold. If, for every one operating plane, there might be considered five engines on the ground, the estimate of civilian owned airplanes in existence would run up to 3,250.

It will be some time before the Department of Commerce will have completed this survey and the information received will be of national interest.

### Artificial Helium

Two German chemists, Dr. Pruthi and Dr. Peierl, recently announced that they had succeeded in manufacturing artificial helium. Their method involves the transformation of hydrogen into helium.

To test the German scientists have prepared artificial balloons and quantities of helium, without practical success. In course of time, however, the discovery may obtain considerable practical significance. Helium is one of the precious gases, extremely rare upon our planet and particularly valuable for filling dirigibles. Since this gas will not burn, its use guarantees protection against the danger of explosion and fire as the gas. However, it is the fortunate position of owning the best sources of helium in the world and has used the gas in her large industry.

### Government Offers Liberty Engines

As a Liberty engine of 180 hp., not over 18 in. diameter, the Department of War announced on Nov. 13. The engine will be sold only at airplanes to be flown within the United States.

The full text of the announcement follows:

The Chief of Air Corps has for sale a number of Liberty engine engines. The engines can be sold only for flying purposes within the territorial limits of the United States. There are now Liberty engines, 17 cylinders, 180 hp., and are in storage at Little Rock Air Intermediate Depot, Little Rock, Ark.

The price falls over a truck at Little Rock is \$2,000 each, plus a handling charge of \$75. Further information may be obtained from Chief Material Division, Air Corps, McCook Field, Dayton, Ohio.

### Waldo D. Waterson Tours Industry

Waldo D. Waterson, former president of the Professional Pilot Association, is a recent star of the aircraft industry, having the greatest air transport company of the country, and with the completion of the Florida Airways, Atlanta-Miami, the Tropic Airways Co., El Paso, and the Pacific Air Transport, San Angel's flight was a passenger on the flight. Mr. Waterson, who is 40 years old, is 13 ft. 6 in. of planes and weighs 142 pounds. He is 3 Army pilots and 3 Navy pilots. During the return trip he schedule was 72 min. total time and 241 mi. alone. He is a passenger on 18 scheduled flights and completed 15 different aircraft flights.

Mr. Waterson reports extensive work in the aircraft industry, and is much impressed with the expansion that has taken place over a short space of time.

### Arkansas Aircraft Co. Starts Production

With the addition to its staff of H. Morton Clark, of New York City, well-known manufacturer, the Arkansas Aircraft Company, of Little Rock, Ark., announced that production of airplanes will begin close. Under Mr. Clark's charge.

The company will manufacture a light, three-passenger plane and the first is expected to be turned out shortly after production starts.

In addition to manufacturing planes, the company will operate a general aviation service and maintain an aviation school. Plans of the company will be for establishment next spring of a manufacturing service.

Clarence C. Cline is president of the company, H. L. Bennett, vice president, W. F. Shultz, secretary and Ray L. Bennett, treasurer. Kenneth Wright and Ray L. Bennett are members of the board of directors together with the officers.

The local Chamber of Commerce and the Little Rock chapter of the National Aeronautics Association, established in the founding of this company. It will use the best airport as a landing field, the airplane factory being located a short distance from the field.

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THE ADVANCE AIRCRAFT COMPANY  
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## The Lizette Sport Plane

*A New Low Powered Two-Seater Plane for Sport Touring.*

**A** GREAT many people visiting the National Air Show recently were attracted to a new type of airplane which was displayed at that time in the Transportation Building at the Longwood-Birmingham Exposition. This machine, known as the Lizette, was designed by Ray G. Miller and Dayton D. Brown and was built by the Lexington Company of Philadelphia.

The Lizette is a patrol monoplane with semi-rigidly hinged wings. It was designed with the idea that satisfactory performance could be obtained in a two-seater with a thirty-horsepower engine of sufficient efficiency was devoted to detail. The desired result has been obtained by reducing to a minimum the number of parts exposed to the windstream and by the application of streamlining shapes. Streamliners were designed which have the streamline form unobscured.

### Wings

The wings are of more or less conventional wood construction with spruce box beams and fabric type ribs. Double duty hinging is used, one set in line with the upper and one with the lower main flange. This provides extreme rigidity against torsional deforming. The air struts are spaced at distances below. The wing section is a deep high lift airfoil at the center, tapering to a thin high speed airfoil at the tips.

### Altimeter

The plan form of the wing tip and altimeter surfaces is generous which wind tunnel tests indicate to be most efficient. The windstream is washed out at the tip to improve the control at steep speed. The profile of the altimeter is so designed that the altimeter is unobscured by the "down-sides" but is too protruded to increase the drag by "up-sides". The fuselage was designed to improve the control in making a turn

by increasing the drag of the wing tip on the inside of the turn. Flight tests have shown that the altimeter is extremely efficient as regards both roll and yaw.

### Fuselage

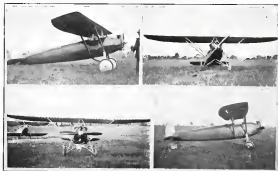
The design of the fuselage monocoque construction with a streamline form. The streamlines are built on one piece monocoque frames which have sufficient stiffness to eliminate the necessity of additional bracing. The result is that the interior of the fuselage is entirely clear. The seating arrangement is side by side with a heavy reinforcement carried around the cockpit openings to insure against crash landing. A door on each side provides an easy entrance with a small cockpit opening.

The placement of the wing covering greatly improves the appearance and the streamlining effect, besides providing a sturdy construction which will stand considerable rough handling.

### Tail Surfaces

It has been somewhat of a problem in airplane design to combine stability with efficient control. A new increase in suitable surface at the expense of the fixed surface improves the control but impairs the stability. On the other hand, a relatively large fixed surface produces good stability characteristics but less the effect of blunting the control surfaces.

On the Lizette both the vertical and the horizontal tail surfaces are designed to combine good control with stability. Both surfaces are an aerodynamic section with a secondary center of pressure and it is positioned slightly forward of the center of pressure location. The tail surfaces are available for one fold and in free of any blunting effect. It is possible to hold the surface in center by a spring which can hardly be felt at the control stick. The stability characteristics are



*A collection of views of the Lizette sport plane (Across 31 by)*



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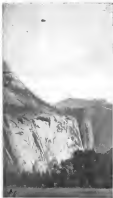




**VERY LOW FLYING**  
The value of the Coast Guard's anti-aircraft balloons, which have made some short flights in the South of England. The machine is equipped with a floatplane, and is being towed by a tugboat through a system of cables along the coast.

**(Right) PARACHUTING AMONG THE MOUNTAINS.** At Arica, B. Atlantic U.S.M.C., of North Island, San Diego, Cal., made one of the most spectacular parachute jumps ever attempted, making a perfect landing on the summit of Mount Arica, Peru, Cal., among the 5000 ft. cliffs of Arica. (Left) Dr. H. C. Cooper and George F. Smith.

**MAKING THE AIRWAYS.** When Alaska Co. is doing its work the airways of the country. The Alaska Building will be one of the city's most modern, and will be an airway pilot for the North. This market was made by the airways of the building and not by the city authorities.



**LEAVING PORT**  
The U.S.S. Los Angeles leaving the Ford Navy Yard at Detroit, Mich., during the recent race up Lake Erie. Captain, N. J.



**(Above) FUTURE AIRCRAFT CARRIERS.** Recently the British Royal Air Force R.33 made a flight carrying the Glenn Hughes (América-South) figure 300 ft. high, and the R.33 was towed by the R.33. During the flight, both planes were successfully flown away from the airship, being towed by means of a gas meter in the tail of the ship. Both planes were towed by means of a quick release mechanism of the motor engine and were towed by the tail wire to the middle of the tank of the airship to prevent collision. It will be recalled that, on previous occasions, only two general planes have been towed from airships.



**THE RED CROSS OF THE AIR.** Above, a Swedish Red Cross plane standing in the middle of London and on the left, a 120 ft. ambulance car used by the U.S. Navy.



and interesting landmarks for topographical surveys from the air.

During the course of the Brown-DeWitts Expedition, daily observations of flight were conducted by the Company. Squads consisting of several planes, bombers, are stationed on the Republic grounds under the command of Maj. J. G. McDonald. Airplane passengers carrying flags take the special train from the Republic by Panama. Another operating from a field directly adjoining the western border of the Republic grounds. Director of Public Safety Effort is considered friendly the establishment of an air police force, to be available for duty in any emergency, especially during large-scale air parades, in prevent local boards operating of aircraft over roads of people. No particular hazard is involved in airplane flying at a safe distance over large assemblies of people, but persons should be made to prevent accidents, starting and flying at a dangerous low distance over large assemblies of people from the standpoint of safety there is no such distance between landing and observation flying as between automobile racing and highway driving.

### Chicago, Ill.

By One Man

The new association, whose organization was completed in a previous issue, has been popular with the press and is making even better of members. It was suggested by some to limit the membership in only those who are actually making their living in aviation, but in the membership would then be very limited, so restricted to local and foreign persons from all corners of the world, it was decided to limit the membership to all those who are trying to make a living in aviation. The membership list steadily increased by leaps and bounds.

The association made its debut by starting an air meet at the Glenbrook Field on December 1st. The weather was

fair, and, while there were not very many planes present, those that took part gave a very good show. J. D. Barnard's and Art Chertier's beautiful new biplanes gave a great standard exhibition. Tony Vukobratovic flew his new Ryan monoplane, showing excellent and taking part in all other events. It was really a beautiful plane and gives a remarkable performance.

Jack Case and his wing walking and rope ladder act and ended the day in a private show that lasted long directly in front of the spectators.

Passengers were offered during the afternoon at five dollars a seat, part of which was turned over to the association, in order to keep the treasurer busy and to pay for the police cost provided to accompany the "large" proceeds to the bank. As the treasurer has not been located as yet, we are assuming making a report of his disposition of all the money.

### Hollywood, Mass.

By Susan Mary J. Jones

Local Geoffrey O. Rogers, local commercial fact, represented the writer for the winter during the present season. It is considering starting a flying school here and soon. With students and the number of passengers he usually carries to Mount Tom and Northampton, President Geoffrey's business, he should do a roaring business. Many of his passengers are local South College girls, who are very keen about flying.

The Springfield, Mass. Chamber of Commerce, is daily working for the establishment of a flying school here.

Thos. A. Woodard, a resident of Springfield, is interested in planning to duplicate a light plane of his own design and speed. It is his intention to build a plane out of the designs who helped produce the Koolha-Ford motor biplane which was flown successfully at Oriskany Field, Rye, Mass., in 1918, but which was never placed on the market.

The Spencer light plane recently sold to a party at Hartford, Conn., was rented out when a blizzard caused the

light monoplane to attempt an unaided flight. It was stalled through the air nearly 80 ft., and then dashed to the ground a mangled wreck.

### McKeesport, Pa.

Bella Field, named in honor of the late Cyrus K. Betts, was impressively dedicated Nov. 25. William F. McGeehan, Jr., Assistant Secretary of Commerce for Aviation, and Congressman Clyde Kelly took leading parts in the program. J. W. Simpson, of Wheeling, acted as master of ceremonies. Other speakers were Maj. E. J. Langley, commanding officer of the First Pursuit Squadron, of Hartsfield Field, and Col. H. G. Fry, chairman of the aviation committee of the Pittsburgh Chamber of Commerce and Pittsburgh Sports Board, of Pittsburgh, who delivered addresses. Mrs. Elmer Betts, of Duquesne, widow of the pilot, was present at the ceremonies.

The rapid program began at 1 p.m. when Air Corps planes flew precisely over principal fields in the country maneuvered in both formation and solo in short flying and other stunts. At 2 p.m. the field was formally dedicated. The speaker explained Cyrus K. Betts and stressed the great value of his life to aviation.

Following the dedication ceremonies Mayor Langley took to the air, closely followed by five of the squadron of war planes, which showed battle formation and gave exhibition for an hour. Parabolic jumps were made from a plane from Claude Pyle, and a feature of the day was the broadcasting of a program over WCAE, from one of the mowing planes of J. C. McMahon, chief of the football data branch of the U. S. Army Air Corps.

A party of ten, including four city officials of Detroit arrived at the airport just before the opening of the program. They all accompanied McKeesport for its vision in establishing the airport.

Flies, latest guests and visitors of the city were made of the chapter of commerce at a banquet held in the Penn

Hotel Hotel during the evening. The function was attended by 250 guests. Assistant Secretary McGeehan in an address spoke the wholehearted support of aviation in behalf of the airport. He said that the airport was a necessity both from a commercial and a military standpoint. He said every man and woman is to get the air mail at all times to insure the success of Bella Field as an air mail and commercial port.

The day following the dedication ceremonies 15,000 people saw the aerial program which concluded the program. Several commercial and military pilots and with each other in showing the great crowd that spread over the field and the adjoining fields.

### Sehenkoto, N. Y.

Following a rearrangement of fixtures by Mr. was the last that V. A. Reber was finally called upon to perform. When a local fireman then found that an outcome started the plane rolled.

The fireman was taken to the landing field on Amsterdam Road, placed in the plane and within 30 minutes the engine was at the door of the perimeter, in 10 minutes, 30 was distant.

### Detroit, Mich.

Capt. Bill Damm and Capt. D. T. Travis, of the New Aircraft Company, are scheduled to leave, in one of their commercial planes, the one of Nov. 25, to a zone, which will include the 20,000 miles of Detroit, Chicago and the whole of the Detroit, Kalamazoo, Grand Rapids, Flint, Muskegon, Marquette, Traverse City, Cadillac, Saginaw, Bay City, Port Huron, Lansing, and Eureka. The plane will also visit Toledo, Ohio. At each of the cities the plane will be met by airport officials. Meetings will be held at the airports to book aviation and to discuss its problems, development and future possibilities.



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**FOR SALE:** OVS motor with exhausts, run 5 hours in motor test, excellent condition, \$250. Also new and used OVS 500 motor, \$10 and \$25. Box 716, Mount, Mo.

**WILL SELL:** North "Tuscan," winner of Philadelphia light plane race, in all conditions for 1929 inclusive shipping motor, but without motor. Clark Airplane Co., 2800 Broad way, Chicago, Ill.

**WANTED:** Sturdy position to pilot. Must guarantee aircraft weekly repairs, experienced in airplane and additional P.A. license. Not a householder. Chicago. Will say any where. Box 515, Annapolis.

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